

ABSTRACT OF THE DISCLOSURE

A protective film agent (M) and a method of forming a protective layer in which the protective film agent (M) is applied to an outer surface of a die mold (9), or applied to an outer surface of the die mold (9) except for a cavity (10) resides. The protective film agent (M) has a liquid mixture prepared by urethane methyl-ethyl ketone and ethyl acetate. A curability enhancement is prepared by an isocyanate-based compound and ethyl acetate. A protective film agent (M) tightly covers the outer surface of the die mold (9) as a protective layer (11), and protects it against the rust, soil and damage. The protective layer (11) has a heat-resistant temperature (around 100°C), and withstands against the operating temperature of 70-80°C , to which the protective layer (11) is subjected at the time of implementing the die forging procedure. A flake-resistance and crack-resistance are improved against an impact, thereby protecting the protective layer (11) against cracks and nicks supposed to occur when the die mold (9) collides with other member.